

Applicant Name	Elk Meadows Ranchettes County Water District
Project Name	Elk Meadows Water System Improvements

Project Abstract

The Elk Meadows Ranchettes County Water District is located in western Montana, roughly 20 miles west of Missoula. The district's water system currently utilizes two wells which provide water to 55 existing homes. Other components of the system include three small tanks, an 110,000-gallon storage tank, 16,600, lineal feet of water main, two booster stations, and seven fire hydrants. The water is disinfected with chlorine and a corrosion inhibitor added before distribution.

The primary deficiencies associated with the Elk Meadows water system pertain to the health and safety issues caused by an inadequate supply of water for domestic and fire protection needs. The system cannot provide sufficient water during high demand periods and there is no redundancy provided by the wells, given the limited capacity of each well. The district lacks adequate water rights to meet existing and anticipated maximum demands. The water supply is corrosive and violates regulatory standards for copper, creating a public health hazard. The distribution system, in part, is undersized and does not have meters on service connections. The water storage tanks in the system are inadequately sized.

The proposed solution includes the development of water resources by the construction of two new wells. A hydrogeological study is included in the project to locate an adequate source of water and obtain needed water rights. Water resources will be conserved after installation of water meters, which are included in the project scope. Reduced water use will also conserve energy required for the booster pumps and a reduction in chemical use is also anticipated. The existing 110,000-gallon storage tank will be expanded to allow additional volume to better utilize existing water resources. An aeration system is proposed to reduce the corrosiveness of the water and preserve the utilization of the existing groundwater resources. A portion of the existing water mains will be replaced to allow for better flow capacity. The distribution system will also be looped to improve system hydraulics and maintainability.